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12a. DISTRIBUTION / AVAILABILITY STATEMENT
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13. ABSTRACT *(Maximum 200 words)*

A set of computer and network equipment has been purchased to support the intrusion detection research. The objective of the intrusion detection research currently funded by AFOSR is to investigate, develop and test:

1) A process model of computer and network operation to capture computer and network activities to a full range from individual components of a computer and network system to the system itself at multiple levels of abstraction;
2) Model-based intrusion detection techniques at the system level to detect coordinated actions and interactive effects of intrusion by correlating and intrusion likelihood values from component-level intrusion detection techniques; and
3) A working prototype of an intrusion detection system to detect intrusions through the integration of the process model and intrusion detection techniques.

To test the process model, the system-level intrusion detection techniques and the working prototype of the intrusion detection system, a set of computer and network equipment has been purchased through this grant to construct a computer and network system that represents a typical DoD information infrastructure involving a mix of different machines and operating environments. Specifically, the following have been purchased:

- three Sun workstations
- one Silicon Graphics workstation
- one Dec workstation
- four Micron PCs
- two Macintosh PCs.

14. SUBJECT TERMS
Intrusion detection
information security

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Final Report to AFOSR

GRANT NO.:	F49620-98-1-0257
PROJECT TITLE:	DURIP: Computer Network Equipment for Intrusion Detection Research
PI:	Nong Ye
REPORTING PERIOD:	March 1, 1999 – February 29, 2000

A set of computer and network equipment has been purchased to support the intrusion detection research. The objective of the intrusion detection research currently funded by AFOSR (grant #: F49620-99-1-0014) is to investigate, develop and test:

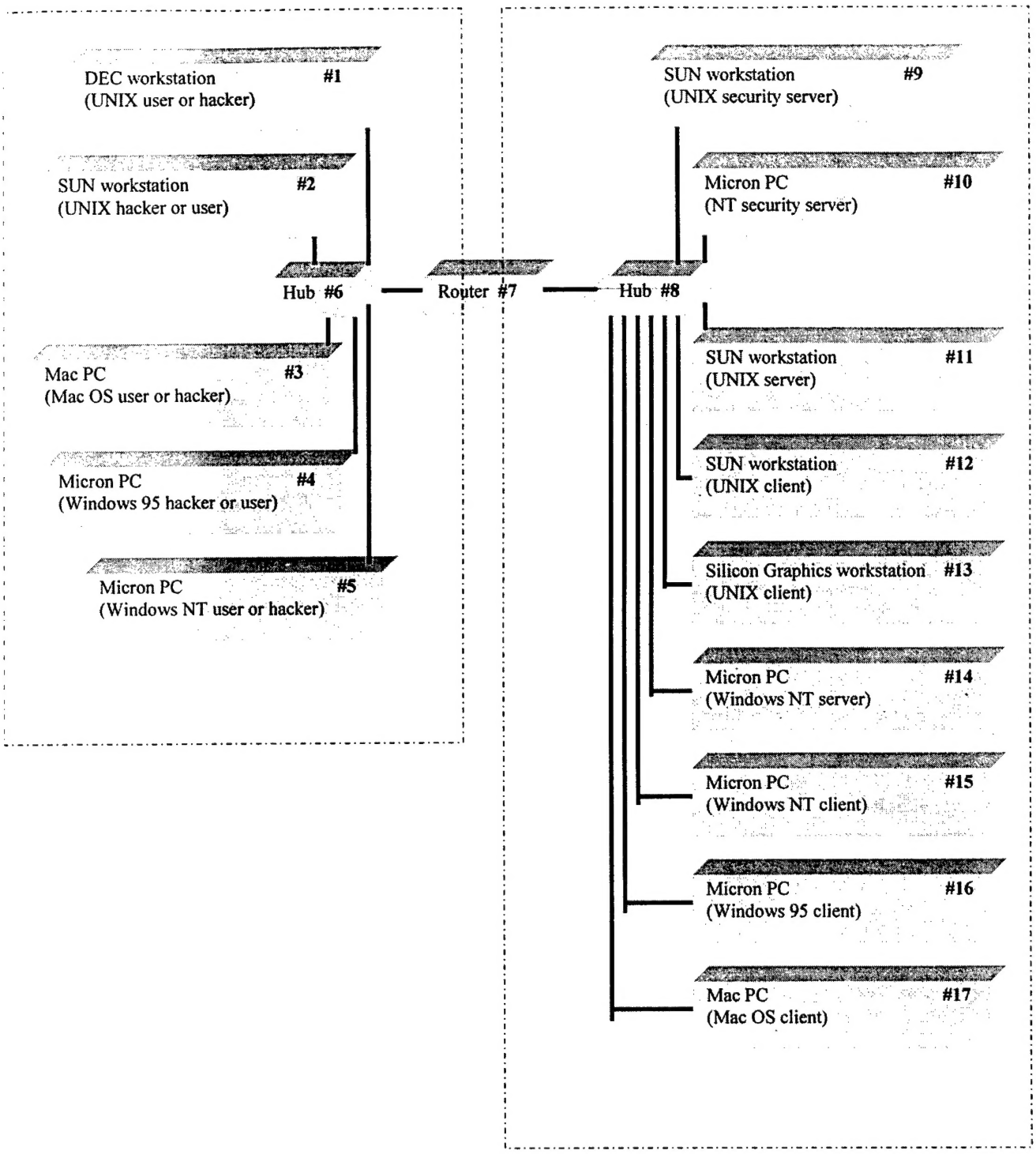
1) A process model of computer and network operation to capture computer and network activities to a full range from individual components of a computer and network system to the system itself at multiple levels of abstraction;
2) Model-based intrusion detection techniques at the system level to detect coordinated actions and interactive effects of intrusion by correlating and intrusion likelihood values from component-level intrusion detection techniques; and
3) A working prototype of an intrusion detection system to detect intrusions through the integration of the process model and intrusion detection techniques.

To test the process model, the system-level intrusion detection techniques and the working prototype of the intrusion detection system, a set of computer and network equipment has been purchased through this grant. Specifically, the following have been purchased:

- three Sun workstations
- one Silicon Graphics workstation
- one Dec workstation
- four Micron PCs
- two Macintosh PCs.

The above machines and existing equipment in the lab are used to form a computer and network system that represents a typical DoD information infrastructure involving a mix of different machines and operating environments. This computer and network system is shown below. The computer and network system consists of a protected network domain and an outside network domain which are connected through a Cisco router. Figure 1 shows the architecture of the computer network system as well as the description, role and ID of each machine in the system. The protected domain contains the UNIX server and clients, the Windows NT server and clients, the UNIX security server, and the Windows NT security server. The outside domain contains two UNIX-based workstations and three PCs.

This computer and network system has been used to test the process model, intrusion detection techniques and the working prototype of an intrusion detection system that have been and are being developed under the three year AFOSR grant (grant #: F49620-99-1-0014).


DEC workstation #1
(UNIX user or hacker)
SUN workstation #2
(UNIX hacker or user)
Hub #6
Router #7
Hub #8
Mac PC #3
(Mac OS user or hacker)
Micron PC #4
(Windows 95 hacker or user)
Micron PC #5
(Windows NT user or hacker)
SUN workstation #9
(UNIX security server)
Micron PC #10
(NT security server)
SUN workstation #11
(UNIX server)
SUN workstation #12
(UNIX client)
Silicon Graphics workstation #13
(UNIX client)
Micron PC #14
(Windows NT server)
Micron PC #15
(Windows NT client)
Micron PC #16
(Windows 95 client)
Mac PC #17
(Mac OS client)